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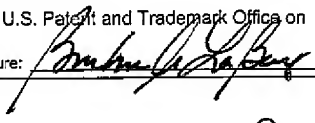
Date: August 17, 2007 Name: Barbara A. LaBarge Signature: 

PATENT

Our Case No.: 10022/324

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | |
|---|---|---|
| In re Appl. of: | Kevin Corneille et al. | |
| Appln. No.: | 10/680,661 | Examiner: Nguyen Thanh Vo |
| Filed: | October 7, 2003 | Art Unit: 2618 |
| For: | CONNECTOR GATEWAY | Conf. No. 5785 |

Attorney Docket No: 10022/324

**AMENDMENT AND RESPONSE TO OFFICE ACTION MAILED MAY 2, 2007**

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the Office Action mailed May 2, 2007, please enter the following amendments and consider the following remarks. This response is being timely filed with a one (1) month extension of time, which is enclosed herewith. Also enclosed is an Information Disclosure Statement.

**Amendments to the Specification** begin on p. 2 of this paper.

**Amendments to the Claims** begin on p. 7 of this paper.

**Remarks** begin on p.17 of this paper.

**Amendments to the Specification**

Please add the following new paragraph on page 1, at line 5 and renumber the existing paragraphs accordingly:

[0001] The following commonly owned patent and patent application are related to this application: U.S. Patent No. 7,239,877 B2, issued July 3, 2007, entitled MOBILE PROVISIONING TOOL SYSTEM; and U.S. Patent Application Serial No. 11/752,747, filed May 23, 2007, entitled MOBILE PROVISIONING TOOL SYSTEM.

**Please replace paragraph [0076] with the following revised paragraph [0076]:**

**[0076]** The chart below shows some of the current fields that may be used by the connector gateway 104 to log usage information, which may be stored in the session database 118.

| Field Name | Description |
|---|---|
| Client IP Address | This is the IP address for the GPRS session |
| Date | Date session was established |
| Time | Time session was established |
| Destination Host | Destination computer or server |
| Processing Time | Total time for operation |
| Number of Bytes Sent | Bytes sent |
| Number of Bytes Received | Bytes received |
| Session ID | Identifier for user session |
| Operation | Operation type (connection, protocol mapping, and so forth) |
| Status Code | Resulting code of operation |

In addition to these: Client end user names may be ~~the~~ looked up in the active directory 108 based on a Client IP Address. Device type being used can also be ascertained based on an APN used to access the carrier network 110.

**Please replace paragraph [0087] with the following revised paragraph [0087]:**

**[0087]** The billing component 146 may be responsible for billing customers or end users for using the carrier network 110. In other words, the billing component 146 may monitor usage of the carrier network 110 and charge the end user based on what type of contract the end user has with the operator of the carrier network 110. The GPRS component 148 may be responsible for controlling access to the carrier network 110 by mobile devices 102. The GPRS component 148 may allow mobile devices 102 to use the carrier network 110 to communicate with other devices and to send and receive data over the carrier network 110. The customer management component 150 may allow customer service representatives to set up, configure and delete end users. The billing component 146, the GPRS component 148, and the CRM component 150 are illustrative of typical backend systems with which the provisioning tools may interface through the carrier middleware 144. They are not meant to be an exhaustive list. Other relevant systems include procurement, mediation, contracts and so forth.

**Please replace paragraph [0113] with the following revised paragraph [0113]:**

**[0113]** A mean speed field 610 may be included for allowing the CRM Rep to enter data relating to the speed in bits per second that may be sustained for longer transfers. A peak speed field 612 may be included for entering data relating to the speed in bits per second that may be allowed for transfers above the mean speed but for less than a maximum size of bits. A scheme field 614 may be included for entering data relating to whether or not data that is sent through the gateway will be encrypted or not. A concurrent field 616 may be included for entering data relating to the maximum number of connections that will be accepted by the customer network 114 at any given point in time. A Next button 618 may be ~~include~~ included for taking the CRM Rep to an add customer confirmation page and a Cancel button 620 may be included for canceling the process of adding a new customer.

**Please replace paragraph [0132] with the following revised paragraph [0132]:**

**[0132]** As illustrated in [[to]] Figure 17, the mobile provisioning tool system 103 may also include an edit tool user view 1700. The edit tool user view 1700 may include a First Name input field 1702, a Last Name input field 1704 and a Description input field 1706. The fields set forth above may be filled in with information about the tool user by data contained in the active directory 108. The User Name and the name of the customer may be displayed to ensure the proper tool user has been located. Although not illustrated, the Security Group and Username of the tool user may also be capable of being edited within the edit tool user view 1700.

**Please replace paragraph [0191] with the following revised paragraph [0191]:**

**[0191]** A Customer table 3604 may be included that stores information for customers, which may be the customer/company name and an associated contract/account structure or Internal ID. All other customer information may already be stored in billing/legacy systems. As such, the Internal ID may be the link to these billing systems. The Customer table 3604 may include a Customer ID attribute, an internal ID attribute and a Customer Name attribute. The Customer ID attribute may be a separate identifier that is created automatically. The Internal ID attribute is an ID that links to billing systems, which defines the customer's contract structure. The Customer Name attribute may simply be the name of the customer and may be for display purposes only.

**Please replace paragraph [0245] with the following revised paragraph [0245]:**

**[0245]** Certain software applications have dependencies on other applications to be installed first before allowing the software application ~~can~~ to be installed and this data field sets forth these software applications. When software applications are installed on the mobile device 102, the lowest number priority in the software configuration is installed first. Thus, if a software application needs to be installed before all others, it should be given a low priority number (e.g. #1). Priority numbers

may be assigned by default in increments of 10 for scalability reasons, which may be for adding additional software applications in the future.

**Please replace paragraph [0261] with the following revised paragraph [0261]:**

**[0261]** The provision download ASP 4900 may include a configuration field 4904 that may set forth a user name, a service address, a mailbox, [[.]] an exchange domain, an Application to be Installed field and a Status field. This information may be provided so that the provisioner is reminded of who the mobile device 102 is being provisioned for and the connection settings that are associated with that particular end user. In addition, an Application to be Installed field may be included that lists the applications that are being installed as well as the fact that the connection settings may be configured while provisioning the mobile device 102. A status field may also be included that will provide the provisioner with an indication of the status of the provisioning process. A Finish button 4904 may be included that might return the provisioner to a user list ASP of the provisioning tool 100. A Cancel button 4908 may be included to allow the provisioner with one last opportunity to abort the provisioning process.

**Please replace paragraph [0266] with the following revised paragraph [0266]:**

**[0266]** A File Exists routine may check to make sure that a file exists on the local system. It will return True if the file was found and False if it was not found. A Copy File to CE may grab a file on the provisioning workstation given by the full source file path and may ~~puts~~ put it onto the mobile device 102 using Remote Application Program Interface (RAPI) functions. The mobile device 102 must be connected with the provisioning workstation, possibly via a cradle, using a synchronization application such as Active Sync software. A RAPI Connect routine may be included that initiates a RAPI connection with the mobile device 102. A Read File routine may be included that reads bytes from a file and copies the contents to a buffer. The buffer contents will later be written to the CE file.

**Please replace paragraph [0280] with the following revised paragraph [0280]:**

**[280]** The main filter of the custom application filter may be used to accept inbound requests from the mobile devices 102, perform session, service and server table lookups and create a single session object for each customer server 5000 that will be accessed through the connector gateway server 104. The session filter may be attached to a session object and may create data filter objects for each inbound request. The data filter drives [rs] the connection between the mobile devices 102 and the customer server 5000 by using a firewall data pump.

**Please replace paragraph [0286] with the following revised paragraph [0286]:**

**[286]** During operation, the connector gateway application may perform several connection steps. On startup, the connector gateway application reads in rows from the connector table 5004 ~~4904~~ and creates an external listening socket (each connector has a unique IP:port combination) and prepares each connection to accept inbound connections. A mobile device connection is received on a listening socket and a copy of the external socket is created by the connector gateway application. Once the external socket is created, the customer server 5000 for the connection is determined by the connector gateway application.

**Amendments to the Claims:**

The listing of Claims will replace all prior versions and listings of the Claims in the application:

**Listing of Claims**

1.-22. (Canceled)

23. (Currently Amended) A computer readable medium encoded with a computer program ~~embodied on a computer readable medium~~ for provisioning mobile services in a plurality of mobile devices, comprising:

a code segment that creates a plurality of listening sockets on a connector gateway server, each of the listening sockets associated with one of a plurality of connector types;

a code segment that receives over a wireless network from a mobile device ~~generates~~ a connection request from ~~for a connector type for~~ an application located on the [[a]] mobile device, the connection request comprising information that translates to a connector type that is associated with a listening socket upon which the connection request was received by the connector gateway server;

~~a code segment that transmits the connection request to a connector gateway server;~~

a code segment that determines if the mobile device is authorized to ~~has~~ access ~~to~~ the connector type;

a code segment that determines a business server associated with the connector type; and

a code segment that emulates a connection between the mobile device and the business server using the connector gateway server.

24. (Currently Amended) The computer readable medium ~~program~~ of claim 23, further comprising a code segment to query ~~where the business server by querying~~ a session table using a source IP address contained in the connection request to obtain a mobile identification number and determine the business server.

25. (Currently Amended) The computer readable medium ~~program~~ of claim 24, where the code segment to query the session table further comprises a code segment to query ~~where~~ a server table ~~is queried~~ using the mobile identification number and the connector type to get a service identification.

26. (Currently Amended) The computer readable medium of ~~program~~ claim 25, further comprising a code segment to query ~~where~~ the server table ~~is queried~~ using the service identification to get a business server IP address.

27. (Currently Amended) A method of providing mobile devices with access to business servers, comprising the steps of:

reading a connector table to create an external listening socket for at least one service type on a connector gateway server;

authenticating that a user has the appropriate access permissions for the requested service type;

receiving a connection request from at least one ~~the~~ mobile device on a listening socket on the connector gateway server;

creating a copy of the external listening socket for the connection request on the connector gateway server;

determining a ~~the~~ business server associated with the connection request;

initiating a session filter for the business server;

creating a data filter to drive an emulation between the at least one mobile device and the business server; and

emulating a connection between the at least one mobile device and the business server on the connector gateway server by pumping data between the at least one mobile device and the business server.

28. (Currently Amended) The method of claim 27, where the business server associated with the connection request is determined by querying a session table using a source IP to get a mobile identification number, where the mobile identification number and the service type are used to query the session table to obtain a service ID, and where the service table is queried using the service ID to obtain a remote server IP address.

29. (New) A connector gateway system that provides mobile devices with access to business services, comprising:

a connector gateway server connected with a wireless access network and configured to include a plurality of listening sockets;

at least one business server connected with the connector gateway server;

the connector gateway server configured to receive a service request generated with an application included on a mobile device, the service request including a DNS name that translates to an address corresponding to one of the listening sockets on the connector gateway server;

the connector gateway server further configured to perform a lookup operation, based on the one of the listening sockets, to determine the business server associated with the service request;

the connector gateway server further configured to authenticate that a user that initiated the service request is a valid user of a service requested with the service request; and

the connector gateway server further configured to create a data filter based on the service request, the data filter configured to drive an emulation of a connection between the mobile device and the business server to pump data between the mobile device and the business server.

30. (New) The connector gateway system of claim 29, where the connector gateway server is further configured to track usage data of the mobile device down to the specific business server being accessed and save the usage data in a data file.

31. (New) The connector gateway system of claim 29, where the connector gateway server is configured, upon startup, to access a connector table that defines a plurality of connectors, and create the listening sockets based on the connector table.

32. (New) The connector gateway system of claim 31, where each of the connectors is mapped to a unique IP address and a port that corresponds to a service type.

33. (New) The connector gateway system of claim 32, where the connector gateway server is configured to create the listening sockets for each of a plurality of service types, one of the service types associated with the application.

34. (New) The connector gateway system of claim 29, where the connector gateway server creates a session filter that is configured to allow firewall events to be received and processed by the connector gateway server in response to the service request.

35. (New) The connector gateway system of claim 29, where the connector gateway server is further configured to locate a session filter that is configured to allow firewall events to be received and processed by the connector gateway server in response to the service request.

36. (New) The connector gateway system of claim 29, where the data filter is configured to use an external socket on the connector gateway server and an internal

socket on the business server to implement a socket interface between the connector gateway server and the business server.

37. (New) The connector gateway system of claim 36, where the external socket is spawned by an application filter object of the connector gateway server in response to acceptance of an external connection by the connector gateway server.

38. (New) The connector gateway system of claim 36, where the internal socket on the business server is accessed by the connector gateway server through a gateway controlled connection object.

39. (New) The connector gateway system of claim 29, where an external connection is created on the connector gateway server in response to the service request that will prompt a remote bind to be emulated to the business server associated with the service request.

40. (New) The connector gateway system of claim 29, where the connector gateway server is configured to determine with a provisioning table if the mobile device is authorized to access the business server.

41. (New) The connector gateway system of claim 29, where the connector gateway server is configured to perform user access / authorization through a lightweight director access protocol lookup.

42. (New) The connector gateway system of claim 29, where the connector gateway server comprises a logging module configured to log all user traffic in a text file.

43. (New) A method of providing mobile devices with access to business servers, comprising the steps of:

creating with a connector gateway server a plurality of listening sockets each associated with one of a plurality of connector types;

over a wireless network receiving a connection request from an application included in a mobile device, the connection request including information that translates to one of the connector types associated with a listening socket on which the connection request is received;

determining if the mobile device is authorized to have access to the connector type;

determining a business server associated with the connector type; and

emulating a connection between the mobile device and the business server using the connector gateway server in response to the mobile device being authorized.

44. (New) The method of claim 43, where the connector type maps to a unique IP and port combination that corresponds to a respective business server.

45. (New) The method of claim 43, where determining the business server associated with the connector type further includes performing a lookup operation with the connector gateway server.

46. (New) The method of claim 45, where performing the lookup operation comprises the connector gateway server querying a table based on the connector type to obtain a service identifier that corresponds to the business server and the connector type.

47. (New) The method of claim 43, further comprising the step of creating a session filter that allows firewall events to be received and processed by the connector gateway server.

48. (New) The method of claim 43, further comprising the step of locating an existing session filter that allows firewall events to be received and processed by the connector gateway server.

49. (New) The method of claim 43, where a data filter uses an external socket on the connector gateway server and an internal socket on the business server to emulate the connection between the mobile device and the business server.

## REMARKS

Claims 23-49 are pending in the present application. Claims 1-22 were canceled without prejudice and preserving the right to pursue the canceled subject matter in other claims. In addition, Claims 27 and 28 were amended, and Claims 29-49 were added to claim additional subject matter described in the specification in at least paragraphs [0194]-[0195], [0271]-[298] and Figures 50-52. No new matter has been added. Re-consideration and allowance is respectfully requested in view of the amendments to the claims and the following remarks.

### Co-Pending Application and Patent

Pursuant to 37 CFR 1.55, Applicant hereby makes of record in the above-identified patent application the following information:

A commonly owned patent and co-pending patent application are related to the above-identified patent application. Specifically, U.S. Patent No. 7,239,877 B2, issued July 3, 2007, entitled MOBILE PROVISIONING TOOL SYSTEM; and U.S. Patent Application Serial No. 11/752,747, filed May 23, 2007, entitled MOBILE PROVISIONING TOOL SYSTEM.

**Applicant respectfully requests the Examiner to review the claims and the prosecution history, including any Office Actions issued by the U.S. Patent and Trademark Office, for U.S. Patent No. 7,239,877 B2 and the pending U.S. Patent Application Serial No. 11/752,747, since the specifications include common subject matter. Although in Applicant's opinion, the claims of the patent and co-pending patent application are not closely related to the claims of the present application, in an abundance of caution, review of the claims is respectfully requested.**

### Amendments to the Specification

Applicant has amended the specification to reflect the related co-pending application and patent. In addition, Applicant has amended typographical errors in the identified paragraphs. No new matter has been added.

**Rejections under 35 U.S.C. § 101**

Claims 23-26 were rejected as being directed to non-statutory subject matter pursuant to 35 U.S.C.§101. Applicant has amended Claims 23-26 as suggested in the office action mailed May 2, 2007 without narrowing the scope of the claims. Thus, Applicant respectfully requests withdrawal of the 35 U.S.C.§101 rejections of Claims 23-26.

**Rejections under 35 U.S.C. § 112 first paragraph**

Claims 23-26 were rejected pursuant to 35 U.S.C.§112 first paragraph as lacking enablement in the written description. Specifically, the office action mailed May 2, 2007 asserted that "the original specification does not provide an enabling disclosure for a computer readable medium as claimed." Applicant respectfully traverses this assertion since the terms "computer readable medium" are well known in the art, and because these terms were included in the originally filed claims of the present application, which form a portion of the specification.

It is the Examiner's burden to establish a reasonable basis for why the scope of protection provided by the claims is not enabled by the disclosure. (MPEP 2164.04) Applicant respectfully asserts that this burden has not been met and the assertions on page 3 of the office action mailed May 2, 2007 are not only factually incorrect since the terms are included in the specification, but also are premised on an unsupported assertion that undue experimentation is required for one skilled in the art to practice the invention. (see MPEP 2164.04 last paragraph). Applicant respectfully asserts that the terms "computer readable medium" are common terms in the English language that have a well known meaning to one of ordinary skill in the art. In addition, Applicant's specification is replete with examples of various servers, mobile terminals, databases, RAM, a memory location, processors, etc. which are all hardware related to, and enabling of, a computer readable medium. Further, Applicant's specification repeatedly describes and refers to software applications, software modules, and code.

Thus, Applicant respectfully asserts that it is not necessary for one of ordinary skill in the art to perform undue experimentation in order to practice the claimed

invention. In addition, the office action mailed May 2, 2007 is completely void of factors, reasons and evidence as to why one skilled in the art could not supply information regarding a computer readable medium without undue experimentation as is required for such an assertion. (MPEP 2164.04)

For at least the foregoing reasons, Applicant respectfully requests that the 35 U.S.C.§112 first paragraph rejections of claims 23-26 be withdrawn.

**Rejections under 35 U.S.C. § 103(a)**

Claims 1-3, 6-7, 11-12, 15, 17, 20-21, and 23-26 were rejected under 35 U.S.C. § 103(a) as being unpatentable in view of U.S. Patent Publication No. 2005/0014489 to Zhigang (hereinafter "Zhigang"), in view of U.S. Patent Publication No. 2004/0185777 to Bryson (hereinafter "Bryson"). In addition, Claims 4-5, 8-10, 13-14, 16, 18-19, 22, and 27-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable in view the combination of Zhigang, Bryson and US Patent Publication No. 2002/0015403 to McConnell et al. (hereinafter "McConnell"). Applicant respectfully traverses the present rejections, because the asserted combinations do not include each and every limitation described in the Claims. Thus, a *prima facie* case of obviousness has not been established, and cannot be maintained.

Claims 23-26

Amended Claim 23 describes a code segment that creates a plurality of listening sockets on a connector gateway server, each of the listening sockets associated with one of a plurality of connector types, and a code segment that receives over a wireless network from a mobile device a connection request from an application located on the mobile device, the connection request comprising information that translates to a connector type that is associated with a listening socket upon which the connection request was received by the connector gateway server. None of the cited references describes a plurality of listening sockets each associated with one of a plurality of connector types, nor a connection request that comprises information that translates to a connector type that is associated with a listening socket upon which the connection

request was received. Specifically, Zhigang is silent with regard to listening sockets and connector types, Bryson only mentions telecommunication connectors with regard to a switch (paragraph 52), and McConnell teaches away by describing creation of only a single SAP TCP and a single listener (paragraph 91). In addition, McConnell describes push requests (paragraphs 25-27 and 92), whereas Claim 23 describes a communication request.

With regard to Claims 24-26, Applicant respectfully traverses that portions of Zhigang cited on page 5 of the office action describe these limitations. For example, the cited portions of Zhigang fails to describe any tables, or queries of such tables to obtain information. In fact, other than an unsupported assertion that Zhigang meets the limitations described in Claims 24-26, the limitations of Claims 24-26 were simply disregarded completely. Accordingly, it is respectfully requested that the rejection of Claims 24-26 be withdrawn as improper. (See MPEP 707 and 37 CFR §1.104(b) and 37 CFR §1.104(c))

Claims 27-28

Claims 27 and 28 has been amended to correct typographical errors without narrowing the Claims and without regard to the cited references or the office action mailed May 2, 2007. Thus, Applicants amendments cannot necessitate a new grounds of rejection of Claims 27-28.

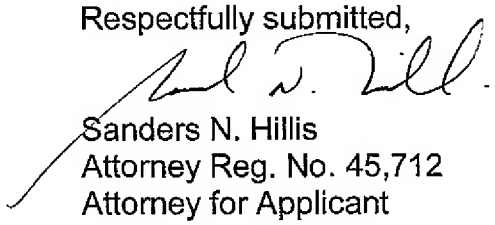
Claim 27 describes creating a copy of the external listening socket for the connection request on the connector gateway server. On page 7 of the office action mailed May 2, 2007, it was indicated that "Claim 27 is rejected for similar reasons set forth in Claim 5 above." However, neither Claim 5 nor the Claims from which Claim 5 depends describe creating a copy of an external listening socket as described in Claim 27. In addition, none of the cited references describe this step. To the contrary, Zhigang and Bryson are silent, and McConnell simply describes a "single listener," which, even if construed as equivalent to a listening socket, McConnell does not teach or suggest creating a copy of an extern listening socket as described in Claim 27. In fact, these limitations in Claim 27 were simply disregarded completely. Applicant

respectfully requests that a full examination of Claim 27 be performed to complete the record in the case and pursuant to MPEP 707 and 37 CFR §1.104(c), and that Applicant be provide the opportunity in response to a non-final office action to address such a full examination of Claim 27.

Claim 28 describes a number of acts that are performed to obtain a remote server IP address. On page 9 of the office action mailed May 2, 2007 it was asserted that cited portions of Zhigang describe these limitations. Applicant respectfully traverses this assertion since the cited portions of Zhigang fail to describe any form or table, nor querying such a table as described in Claim 28. Applicant respectfully requests, pursuant to MPEP 707 and 37 CFR §1.104(c), that the pertinence of Zhigang to the limitations described in Claim 28 be clearly explained for the record in a non-final office action that allows Applicant an opportunity to fully respond to the explanation provided.

New Claims 29-49 are not taught, suggested or disclosed by any of the cited references either alone or in combination. Thus, for at least the foregoing reasons, the presently pending Claims are patentable over the cited prior art. Applicant respectfully requests the Examiner to so find and issue a Notice of Allowance for this application. Should the Examiner deem a telephone conference to be beneficial in expediting allowance/examination of this application, the Examiner is invited to call the undersigned attorney at the telephone number listed below.

Respectfully submitted,



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